

ABSTRACT

A VALVE FOR CONTROLLING FLOW OF A FLUID

A valve for controlling flow of a primary fluid in a primary flow channel comprises a valve fluid channel, and a membrane of a porous dielectric material located in the channel so as to divide the channel into an inlet part and an outlet part and so that valve fluid flowing between the inlet and outlet parts flows through the said membrane. First and second electrodes are located for electrical communication with valve fluid in the inlet and outlet parts respectively of the valve fluid channel for application of an electric potential across the membrane in order to promote electro-osmotic flow of valve fluid through the membrane. A valve member can be displaced between open and closed positions as a result of valve fluid moving in the valve fluid channel through the membrane, into or out of the outlet part of the valve fluid channel, in which the valve member causes a reduction in the capacity for flow of the primary fluid in the primary flow channel when it is in the closed position compared with when it is in the open position.